ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM

Plant Abstract **Element Code:** PDCUS011R0
Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Cuscuta warneri*
COMMON NAME: Warner's Dodder
SYNONYMS: *Cuscuta indecora* var. *warneri* (Yuncker) T. Beliz, comb. nov. ined.
FAMILY: Cuscutaceae

AUTHOR, PLACE OF PUBLICATION: Yuncker, Brittonia 12: 38, f. 1. 1960.

TYPE LOCALITY: USA, Utah, Millard County, Vicinity of Flowell, 15 miles W of Fillmore.

TYPE SPECIMEN: IT: F. Warner, L. s.n., 10 Sept 1957, Utah, USA. GH, US 2213414 & 2420375, NY 336648-336651.

TAXONOMIC UNIQUENESS: *Cuscuta warneri* is 1 of 50 species in the genus, and 1 of 15 in Arizona. *Cuscuta* is the only genus in the family Cuscutaceae. According to NatureServe (2001), "Recognized by Kartesz (1999) and treated by USFWS (9/93) as *Cuscuta warneri*. "*Cuscuta indecora* var. *warneri*" (Yuncker) T. Beliz, comb. Nov. ined., is treated as a synonym of Kartesz (1999); that unpublished combination was used by Kartesz (1994) for an accepted taxon at the varietal level within the species *Cuscuta indecora*."

DESCRIPTION: Parasitic, yellowish, very slender vine. Stems slender, yellow; inflorescence a few- to many-flowered cluster; flowers 5-merous, 2.0 mm long, short pedicellate, very papillate to tuberculate. Calyx united, the lobes 0.8-1 mm long, triangular-ovate, shorter than the corolla tube, each lobe with a thickened, acute, cone-like projection, 0.5-0.7 mm long. Corolla tubular-campanulate, the lobes 1-1.2 mm long, triangular-ovate, acute, erect to inflexed, prominently papillose. Stamens shorter than corolla lobes; anthers ovoid; ovary globose; styles slender. Capsule globose, with a prominent , shallowly lobed collar around the apical depression, smooth, surrounded by the persistent perianth; seeds usually 2, oval.

AIDS TO IDENTIFICATION:

ILLUSTRATIONS: B&W line drawing of plant parts (Cronquist et al. 1984: p. 83)
Color photo of genus (UC, IPM 2000: http://www.ipm.ucdavis.edu/)
Color photo of genus (Swift, 2001: http://www.colostate.edu/)
Color photo of Isotype (Warner, MBG-1807194, *in* http://mobot.mobot.org/cgi-bin/search_vast)
Color photos of Isotypes (Warner, NY 336648-336651, *in*

http://207.156.243.8/emu/vh/specimen.php?irn=99788 and 99789-99791)
Color photos of Isotypes (Warner, US 2420375 and 2213414, *in*
http://ravenel.si.edu/botany/types//fullRecords.cfm?myFamily=)

TOTAL RANGE: Utah and potentially Arizona. Also reported in California, Nevada and South Dakota (Regulated non-native plants species) by USDA, NRCS (2002).

NatureServe (2005), reports "The taxon was known only (or primarily) from the original locality in Utah, where found in 1957. Careful search at the type locality (e.g., in 1984) has failed to relocate this taxon. Reportedly also in Arizona, but also not relocated (Kartesz 1999)."

RANGE WITHIN ARIZONA: Unknown; potentially northern part of state.

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Parasitic annual vine. USDA, NRCS (2002) reports the vine as a perennial.

PHENOLOGY: For the genus: In Arizona, flowers June to November, but mostly July to September.

BIOLOGY: For the genus: "Dodder seeds germinate on the soil surface and the resulting plant develops a small root system and 2- to 4-inch long thread-like stalk which attaches to green plants. Once attached, the root system disappears and the dodder becomes wholly parasitic. Many broadleaf plants serve as hosts for this parasite, but alfalfa and clover are especially susceptible. Dodder seeds are fairly long-lived in the soil and infestation may occur in areas where host plants were not grown for several years." (Whitson, et al. 1992). Mature plants produce thousands of hard seeds that can remain dormant in the soil for years. Seedlings must attach to a suitable host within a few days of germination or they die. The stems branch greatly, forming a network about the host. Although branches of the host or the entire host may die, the only part of the vine that dies is that portion directly attached to lifeless material. (Parker 1972, UC-IPM 2000). "Dodder is said (Wilson, et al.) to contain some chlorophyll in the buds, fruits and stems, but the amount of food manufactured in this tissue is of little significance to the survival of the plant" (Swift, 2001); thus most nutrients are obtained from the host plant.

Phytoplasma, the cause of more than 200 so-called yellows diseases, are spread by several different vectors to include leafhoppers and dodders. Allowing dodder to spread in a field or garden area is asking for an increase in the plant diseases this parasite is capable of spreading. (Swift, 2001)

HABITAT: Alluvium, sandy soil; desert shrub community.

ELEVATION:

EXPOSURE:

SUBSTRATE: Alluvium, sandy soil.

PLANT COMMUNITY: Unknown. Collected by L. Warner in 1957 on *Phyla cuneiformis*.

POPULATION HISTORY AND TRENDS: Per NatureServe (2001), "*Cuscuta warneri* (sometimes considered an unnamed variety of *C. indecora*) may be extinct. The taxon was known only (or primarily) from the original locality in Utah, where found in 1957. Careful search at the type locality (e.g., in 1984) has failed to relocate this taxon. Reportedly also in Arizona, but also not relocated (Kartesz 1999)."

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None (USDI, FWS 1996)
[C2 USDI, FWS 1993]
[C2 USDI, FWS 1990]

STATE STATUS: None

OTHER STATUS: None

MANAGEMENT FACTORS: The genus *Cuscuta* is considered a noxious weed in most states where it occurs including AL, AR, CA, FL, MA, MI, MN, NC, VT. In Arizona, *Cuscuta* is considered a prohibited and restricted noxious weed. In Oregon, *Cuscuta* is a "B" designated weed that is on the quarantine list. South Carolina considers it a plant pest, while South Dakota lists the genus as a regulated non-native plant species. (USDA, NRCS 2004).

PROTECTIVE MEASURES TAKEN:

SUGGESTED PROJECTS: Surveys needed to determine status and distribution.

LAND MANAGEMENT/OWNERSHIP:

SOURCES OF FURTHER INFORMATION

REFERENCES:

Cronquist, A., et al. 1984. Intermountain Flora, vascular plants of the Intermountain West, U.S.A. Volume Four. The New York Botanical Garden, Bronx, New York. Pp. 81-83.

Harvard University Herbaria. 2001. Index of Botanical Specimens. http://cms.huh.harvard.edu/. (Accessed: 8/28/2002).

Http://www.hear.org/gcw/html/autogend/species/5865.htm. The Global Compendium of

Weeds: *Cuscuta warneri* Yuncker.

Integrated Taxonomic Information System (ITIS). Retrieved 2/2/2005 from ITIS, http://www.itis.usda.gov.

Missouri Botanical Garden – TROPICOS, Nomenclatural Data Base. *Cuscuta warneri* Yunck. http://mobot.mobot.org/. (Accessed: 28 Aug 2002).

NatureServe Explorer: An online encyclopedia of life [web application]. 2001. Version 1.6. Arlington, Virginia, USA: NatureServe. Available: http://www.natureserve.org/explorer. (Accessed: August 28, 2002).

NatureServe. 2005. NatureServe Explorer: An online encyclopedia of life [web application]. Version 4.2. NatureServe, Arlington, Virginia. Available: http://www.natureserve.org/explorer. (Accessed: February 2, 2005).

Parker, K.F. 1972. An illustrated guide to Arizona weeds. The University of Arizona Press, Tucson, Arizona. P. 234.

SEINet. Collections Search Result. Accessed 2/2/2005 at http://seinet.asu.edu/collections/list.jsp.

Swift, C.E. 2001. *Cuscuta* and *Grammica* species – Dodder, a plant parasite. Colorado State University Cooperative Extension. http://www.colostate.edu/Depts/CoopExt/TRA/dodder.html. (Accessed: 8/28/2002).

The New York Botanical Garden. NYBG Specimens detailed results. http://scisun.nybg.org.8890/. (Accessed: 8/28/2002).

The New York Botanical Garden. NYBG Specimens detailed results. http://207.156.243.8/emu/vh/specimen.php?irn=99788. also 99789-99791. (Accessed: 2/2/2005).

University of California, Statewide Integrated Pest Management Program (UC, IPM). 2000. Pest management and identification, Dodder, *Cuscuta* spp. (Family Convolvulaceae). The Regents of the University of California. http://www.ipm.ucdavis.edu/. (Accessed: 8/28/2002).

U.S. National Herbarium Type Specimen Register (US). http://rathbun.si.edu/. (Accessed: 8/28/2002).

U.S. National Herbarium Type Specimen Register (US). http://ravenel.si.edu/. (Accessed: 2/2/2005).

USDA, NRCS. 2002. The PLANTS Database, Version 3.5 (http://plants.usda.gov). National Plant Data Center, Baton Rouge, LA 70874-4490 USA.

USDA, NRCS. 2004. The PLANTS Database, Version 3.5 (http://plants.usda.gov). National Plant Data Center, Baton Rouge, LA 70874-4490 USA.

USDI, Fish and Wildlife Service. 1990. Endangered and Threatened Wildlife and Plants; Review of Plant Taxa for Listing as Endangered or Threatened Species; Notice of Review. Federal Register 55(35): 6197.

USDI, Fish and Wildlife Service. 1993. Endangered and Threatened Wildlife and Plants; Review of Plant Taxa for Listing as Endangered or Threatened Species; Notice of Review. Federal Register 58(188): 51159.

USDI, Fish and Wildlife Service. 1996. Endangered and Threatened Wildlife and Plants; Review of Plant and Animal Taxa that are Candidates for Listing as Endangered or Threatened Species; Notice of Review; Proposed Rule. Federal Register 61(40): 7596-7613.

Welsh, S.L., N.D. Atwood, S. Goodrich, and L.C. Higgins, eds. 1993. A Utah Flora. Second Edition, revised. Print Services, Brigham Young University, Provo, Utah. P. 331.

Whitson, T.D., editor, et al. 1992, revised. Weeds of the West. The Western Society of Weed Science in cooperation with the Western United States Land Grant Universities Cooperative Extension Services. P. 287.

MAJOR KNOWLEDGEABLE INDIVIDUALS:

ADDITIONAL INFORMATION:

Revised: 2002-08-29 (SMS)
2005-03-17 (SMS)

To the user of this abstract: you may use the entire abstract or any part of it. We do request, however, that if you make use of this abstract in plans, reports, publications, etc. that you credit the Arizona Game and Fish Department. Please use the following citation:

Arizona Game and Fish Department. 20XX **(= year of last revision as indicated at end of abstract)**. X...X **(= taxon of animal or plant)**. Unpublished abstract compiled and edited by the Heritage Data Management System, Arizona Game and Fish Department, Phoenix, AZ. X pp.